

February 15, 2010

DIAMOND WATER CONDITIONING
TOM GREISBACH
N1022 QUALITY DR
PO BOX 170
GREENVILLE WI 54942

Re: Description: WATER TREATMENT DEVICE-OXIDIZING
Manufacturer: DIAMOND WATER CONDITIONING
Product Name: DIAMOND WATER CONDITIONING (POE)
Model Number(s): FE-100A, FE-150A AND FE200A (POE)
Product File No: 20090304

The specifications and/or plans for this plumbing product have been reviewed and determined to be in compliance with chapters Comm 82 through 84, Wisconsin Administrative Code, and Chapters 145 and 160, Wisconsin Statutes.

The Department hereby issues an approval based on the Wisconsin Statutes and the Wisconsin Administrative Code. This approval is valid until the end of February 2015.

This approval supersedes the approval issued on September 24, 2004 under product file number 20040468.

This approval is contingent upon compliance with the following stipulation(s):

- This product has undergone sufficient testing to document the product's ability to reduce only those contaminants and/or substances as specified in this approval letter when the product is installed and maintained in strict accordance with the manufacturer's published instructions.
- Where the Department of Natural Resources (DNR) has jurisdiction, a written approval may be required prior to installation of this product in a water supply system to reduce the concentration of a contaminant that exceeds the primary drinking water standards contained in ch. NR 809, Wis. Admin. Code, the enforcement standards contained in ch. NR 140, Wis. Admin. Code, or for a water supply system that is subject to a written advisory opinion by the DNR. For more information contact the DNR Section of Private Water Systems, P.O. Box 7921, Madison, WI 53707, telephone (608) 266-3415.
- If these approved devices are modified or additional assertions of function or performance are made, then this approval shall be considered null and void, unless the change is submitted to the department for review and the approval is reaffirmed.
- The department does not recommend the use of water softeners for reducing dissolved iron concentrations in excess of 3.0 mg/l. This is because applying water softeners in this way sacrifices long-term water softener performance and efficiency. The use of water softeners for reducing dissolved iron concentrations exceeding 3.0 mg/l also generates excessive, and otherwise avoidable, quantities of chloride and dissolved solids which are subsequently discharged to ground and/or surface water supplies. Once present in ground and/or surface water supplies, chloride and dissolved solids tend to remain in the water resource and may travel great distances from the original point source. Presently, there are no economically viable methods to remove chloride and dissolved solids from water supplies because available technologies generate waste streams of their own, further concentrating the problem. It has been established by the Wisconsin Department of Natural Resources that chloride is chronically toxic to representative aquatic organisms, including forage and sport fish, at 395 mg/l, and acutely toxic at 757 mg/l.

- These devices are not approved for the reduction of bacterial, colloidal or organically bound forms of iron.

The water must be tested to speciate the iron present to determine if these devices can provide adequate treatment.

Based on testing data submitted to and reviewed by the department, this approval recognizes that these plumbing products will reduce the concentration of contaminants as specified on pages 1 through 2 of this letter.

AESTHETIC CONTAMINANT REDUCTION CAPABILITIES
PRODUCT FILE NUMBER 20090304
TABLE 1 OF 1

Flow Rates and Corresponding Pressure Losses:

FE-100A = 7.6 liters per minute (lpm) @ 10.3 kilopascals (kPa) [2.0 gallons per minute (gpm)
@ 1.5 pounds per square inch gauge (psig)]
FE-150A = 7.6 lpm @ 10.3 kPa (2.0 gpm @ 1.5 psig)
FE-200A = 15.1 lpm @ 17.9 kPa (4.0 gpm @ 2.6 psig)

Capacities:

FE-100A = 4,096 liters (l) [1,082 gallons (gals.)]
FE-150A = 6,144 l (1,623 gals.)
FE-200A = 8,192 l (2,164 gals.)

Tested Contaminant	Average Influent Challenge (mg/l) ¹
Dissolved iron (Fe ⁺²)	10.0 ± 10%

Other Conditions: the contaminant reduction performance capabilities displayed for Table 1 of 1 were verified by testing conducted in accordance with WQA Standard S-200-73. To qualify for dissolved iron reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 0.2 mg/l. Note, the maximum influent dissolved iron concentration for these devices is 10.8 mg/l.

¹ = milligrams per liter (mg/l) are equivalent to parts per million (ppm)
≤ = less than or equal to

± = plus or minus

This device was tested under controlled laboratory, or field, conditions. The actual performance of this device for a specific end use installation will vary from the tested conditions based on local factors such as water pressure, water temperature and water chemistry.

The department is in no way endorsing this product or any advertising, and is not responsible for any situation which may result from its use.

Sincerely,

Glen W. Schlueter
Engineering Consultant-Plumbing Product Reviewer
Bureau of Integrated Services
Safety and Buildings Division
Department of Commerce
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